

PROJECT NUMBER: 0400
PROJECT TITLE: Low Density Rod Development
PROJECT LEADER: R. S. Mullins
PERIOD COVERED: July 1987

LOW DENSITY ROD

- A. **Objective:** Develop a continuous process for the production of reduced density cigarettes.
- B. **Results:** Physical test results from the alternate pectin test indicated that the Bulmer pectin produces a firmer cigarette than either the Hercules L200, the Hercules X6950, or the degraded Hercules L200. The 57 mm cigarette rods produced with the Bulmer pectin had an equilibrated firmness of 3.1 mm at a tobacco weight of 515 mg while the firmness of the next closest candidates, the Hercules L200 and X6950, was approximately 3.7 mm at the same tobacco weight. However, since the L200 was subjectively preferred over the Bulmer, the L200 will be used for future samples produced for Flavor Development.

The binder application process was shut down during July to allow the process to be relocated and upgraded. One of the two binder application systems has now been returned to operation, allowing the production of samples for Flavor Development and New Products to resume.

The ecreteur on the low density cigarette maker was modified by removing the ecreteur disks and replacing the wiper disk with a spare ecreteur disk from the Hauni Pilot Maker. With this modification, a significant ecreteur return rate was obtained (20% - 25%) and the tobacco rod appeared more uniform. Based on a limited number of unequilibrated, hand weighed samples, this modification reduced the cigarette weight standard deviation from 35 mg to 24 mg. To confirm these preliminary results, additional cigarettes have been submitted for equilibration and weight selection.

Design of an improved microwave drying cavity has been completed. Fabrication of the cavity is scheduled to be completed by September 1.

- C. **Plans:** Start up the second binder application system. Complete fabrication of the improved microwave drying cavity. Produce additional samples for the Low Tar/High Flavor program from the following blends: Bremen IV without AB, cased Bremen IV with AB, all lamina, All-Natural, and the all lamina with MAP. Investigate the difference in binding performance between the Bulmer and Hercules L200 pectins. Identify the additional process development needed and the resources required to support product development (including POL's) and commercialization of the process.

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